

Amendments to the Specification

Please amend the paragraph beginning on page 1, line 15 as follows:

This application is a continuation of U.S. Patent Application 09/427,178, filed 25 October 1999, which is a continuation-in-part of U.S. Patent Application 09/265,195, filed 10 March 1999. This application claims priority to and is a continuation-in-part of the co-pending application filed on March 10, 1999, entitled "Solid State Non-Invasive Infrared Absorption Spectrometer for the Generation and Capture of Thermal Gradient Spectra from Living Tissue", identified by U.S. Patent Serial Number 09/265,195.

Please amend the paragraph beginning on page 6, line 2 as follows:

Figure 4A is a plan view of a heater grid of the present invention, and Figure 4B is an exploded view of the heater grid of Figure 4A taken along section 4B-4B;

Please amend the paragraph beginning on page 9, line 8 as follows:

One embodiment of such a heater element 220 is the heating grid shown in Figure 4 Figures 4A and 4B. The embodiment shown in Figure 4 Figures 4A and 4B shows a metal heater grid 221 designed and manufactured by Deposition Research Laboratories, Inc. The heater grid 221 has a resistance of about 2 ohms and has a preferred thickness of 1,500 Å. A preferred grid material is a gold alloy, but other acceptable materials include, but are not limited to, platinum (Pt), titanium (Ti), tungsten (W), copper (Cu), and nickel (Ni). The perimeter of the grid is surrounded by a bus bar 222 for contacting electrode leads. The heater 220 is covered with an electrically insulating coating which also enhances adhesion to the spreader layer 205. One preferred covering is an aluminum oxide (Al_2O_3) coating over the grid pattern to prevent electrical current from conducting through the spreader layer 205 into the tissue 100. Al_2O_3 also advantageously increases the adhesion of the heater element 220 to the spreader layer 205. Other acceptable materials include, but are not limited to, titanium dioxide (TiO_2) or zinc selenide (ZnSe). The heater grid 221 is electrically connected to an electrical power source through the bus 222. A preferred bus bar material is gold.

Amendment Dated 14 October 2003

One preferred example of a heater grid incorporates a variable pitch distance "d" between the conducting lines to maintain a constant power density across the entire grid 221. In this embodiment a preferred line width "w" is about 25 microns. Another design for maintaining a constant power density across the entire grid 221 incorporates varying line widths "w" while keeping the pitch distance "d" constant.